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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/787,391

02/27/2004

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Q80124

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23373 7590 07/27/2007  
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EXAMINER

YEH, EUENG NAN

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

07/27/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/787,391

Applicant(s)

MINO ET AL.

Examiner

Eueng-nan Yeh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date Feb 27, 2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Title - Suggestion***

2. The title of the invention, "DEVICE AND METHOD FOR ATTACHING INFORMATION, DEVICE AND METHOD FOR DETECTING INFORMATION, AND PROGRAM FOR CAUSING A COMPUTER TO EXECUTE THE INFORMATION DETECTING METHOD", is presently too long. The following (or equivalent) title is suggested: System for attaching and detecting embedded information in an image.

### ***Drawings***

The drawings are objected to because of following minor informalities:

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "52" in figure 7 and "15" in figure 9 have both been used to designate "INFORMATION STORAGE PART". Similarly, reference characters "15" in figure 7 and "52" in figure 9 have been used to designate "INFORMATION RETRIEVING PART".

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended

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replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities and appropriate corrections are required:
  - a) Page 14, line 17, "FIG. 5 is a flowchart" should be corrected as "FIG. ~~5~~ 6 is a flowchart".

***Claim Rejections - 35 USC § 101***

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." In this context, "functional descriptive material" consists of data structures and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific data manipulation functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited to music, literary works and a compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare *In re Lowry*, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable medium that increases computer efficiency held statutory) and *Warmerdam*, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with *Warmerdam*, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure per se held nonstatutory).

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

6. Claims 9 and 10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 9 and 10 define a computer program embodying functional descriptive material. However, the claims do not define a computer-readable medium or computer-readable memory and are thus

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non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" – Guidelines Annex IV). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claims to embody the program on "computer-readable medium" or equivalent (for example: A computer readable medium encoded with a computer program for causing ...); assuming the specification does NOT define the computer readable medium as a "signal", "carrier wave", or "transmission medium" which are deemed non-statutory (refer to "note" below). Any amendment to the claim should be commensurate with its corresponding disclosure.

Note:

A "signal" (or equivalent) embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material.

Should the full scope of the claim as properly read in light of the disclosure encompass non-statutory subject matter such as a "signal", the claim as a whole would be non-statutory. In the case where the specification defines the computer readable medium or memory as statutory tangible products such as a hard drive, ROM, RAM, etc, as well as a non-statutory entity such as a "signal", "carrier wave", or "transmission

medium", the examiner suggests amending the claim to include the disclosed tangible computer readable media, while at the same time excluding the intangible media such as signals, carrier waves, etc.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1, 2, 7 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Rhoads (US 6,411,725 B1).

Regarding claims 1, 7, and 9, Rhoads discloses: An information attaching device comprising:

information attaching means for attaching different information to each of a plurality of regions in said image that respectively contain said plurality of photographed objects (as depicted in figure 1A, numerals 100 and 102: "... convey auxiliary information 100 about video objects in the content. An embedding process 102 encodes the auxiliary

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information into a watermark embedded in the video content..." at column 4, line 7; see also figure 4, illustrates an embedding process for encoding auxiliary information about video objects in a video stream, "... location of two or more video objects by drawing a boundary around the desired video objects in a video sequence. The encoding process records the screen location information for each object in the relevant frames and associates it with the auxiliary information provided by the user ..." at column 8, line 20, and acquiring said information-attached image (as depicted in figure 4, numeral 404 "...watermark encoding process 404 encodes the auxiliary information into the content. ..." at column 8, line 13).

Regarding claim 2, information attaching means is means for acquiring said information-attached image by hiddenly embedding said information in said image (as depicted in figure 4, numeral 404 "...watermark encoding process 404 encodes the auxiliary information into the content. ..." at column 8, line 13).



***Claim Rejections - 35 USC § 103***

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 3 – 6, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rhoads and Narayanaswami et al. (U.S. 2003/0011684 A1).

Regarding claims 3, 8, and 10 Rhoads discloses: An information detecting device comprising:

input means for receiving image data obtained by an image reproducing medium, on which the information-attached image acquired by the information attaching device as set forth in claim 1 is reproduced, with image pick-up means (as depicted in Rhoads figure 1, numerals 106 and 108: "...receiver 106 captures the video content and places it in a format from which a watermark decoder 108 extracts the auxiliary information ..." at column 4, line 13; see also figure 7, illustrates the decoding processes for extracting watermark information from video content); and  
detection means for detecting said information from said image data for each of said plurality of objects contained in said information-attached image (as depicted in figure 7,

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numeral 702: "decoding auxiliary information embedded in a watermark in the video content ..." at column 11, line 2. The plurality of objects was discussed in claim 1).

Rhoads discloses the information attaching process for plurality of objects and detecting the information through transmission as depicted in figure 1A, numeral 104.

Rhoads does not explicitly disclose the transmitted image data can be the photographed image data.

Narayanaswami, in the same field of endeavor of digital image verification("... for verifying the authenticity of the digital images" in paragraph 2, line 6), teaches a digital image capturing system as depicted in figure 1, numeral 100: "FIG. 1 is a camera (which is capable of capturing still and /or video images) ... FIG. 1 is not limited to a camera, but may be embedded in other CPU based systems such as a portable computer or any PDA ..." in paragraph 32, line 7.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to enhance the information attaching/detecting system Rhoads made with photographing image data capture capability as taught by Narayanaswami, so the image data transmission will not limit to broadcast, electronic file download over a network, streaming delivery over a network, etc.

Regarding claim 5, image pick-up means is a camera provided in a portable terminal (discussed in claim 3, as depicted in Narayanaswami figure 1, numeral 100: "FIG. 1 is a camera (which is capable of capturing still and /or video images) ... FIG. 1 is

not limited to a camera, but may be embedded in other CPU based systems such as a portable computer or any PDA ..." in paragraph 32, line 7).

Regarding claim 6, said information is location information representing storage locations of audio data correlated with said plurality of photographed objects ("Another aspect of the invention is a method for using a watermark that has been encoded into a video signal ... The watermark may include a direct (e.g., URL or network address) or indirect link (e.g., object identifier) to the web site ..." at Rhoads column 2, line 35), and which further comprises audio data acquisition means for acquiring said audio data, based on said location information (as depicted in Rhoads figure 1A, numeral 114: "a user interface 114 executes and provides visual, audio, or audio-visual information to the user ... user interface receives input from the user, selecting a video object. In response, it performs an action associated with the selected object using the auxiliary object information decoded from the watermark ..." at column 4, line 17, see also "The watermark may carry information or programmatic action. It may also link to external information or an action, such as retrieval and output of information stored elsewhere in a database, website, etc. Watermark linking enables the action associated with the watermark to be dynamic ..." at column 4, line 29).

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11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rhoads and Narayanaswami as applied to claims 1, 2, and 3 discussed above, and further in view of Motta et al. (US 6,726,103 B1)

The Rhoads and Narayanaswami combination discloses an information attaching/detecting system with image pick-up means to receive photographed-image data.

The Rhoads and Narayanaswami combination does not explicitly disclose a way to correct the geometrical distorted photographed-image data.

Motta, in the same field of endeavor of digital imaging ("relates to the field of image sensors and imaging systems" at column 1, line 8), teaches a geometric correction processing system for the photographed-image data as depicted in figure 3. "Data processing may include but is not limited to data interpolation, noise reduction, color adjustment, and/or geometric corrections due to optical aberrations ..." at column 4, line 4.

It would have been obvious at the time the invention was made to one of ordinary skill in the art to provide the information attaching/detecting system made by Rhoads and Narayanaswami combination with the geometrical distortion correction processor as taught by Motta, in order to provide "A system that can self test, detect errors, and correct such errors ... and would be of great value to many businesses and industries" at column 2, line 29.

**Conclusion**

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eueng-nan Yeh whose telephone number is 571-270-1586. The examiner can normally be reached on Monday-Friday 8AM-4:30PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on 571-272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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